

Aim of this study is to assess the rate of VP and atrial arrhythmias (AA) according to indication of pacing and programming MVP function during long term follow-up.

**Methods:** The multicenter observational Generation MVP study included 264 patients aged  $77 \pm 10$  years (men: 52%) implanted for sinus node dysfunction (SND) (n=141) or AVB (n=123). Programming function MVP has been left to discretion of the physician. Percentage of VP and percentage of patients with paroxysmic or persistent AA was assessed on average at 2 and 10 months according to the indication of pacing and the state of programming MVP function.

**Results:** Percentage of VP at 2 and 10 months is significantly lower for the 2 groups of indication for patients with MVP function activated [On] compared with patients without MVP function [Off]. AA burden at 2 and 10 months was significantly lower when the MVP function is programmed [On] in AVB and SND groups.

**Conclusion:** In this study performed in current practice, at 2 and 10 months follow-up, programming MVP function is associated with a significant decrease of VP for SND and AVB indications. Moreover programming function MVP is associated with a significant decrease of AA burden at each time and each indication.

## 239

### Lack of complete right inferior pulmonary vein isolation during cryoballoon AF ablation is a predictor of mid-term AF recurrences

Aurélien Guiot [Orateur], Arnaud Savouré, Bénédicte Godin, Frédéric Anselme  
CHU Charles Nicolle, Cardiologie, Rouen, France

**Introduction:** Pulmonary vein isolation (PVI) using cryotherapy has emerged as an interesting alternative to radiofrequency PVI in patients with paroxysmal atrial fibrillation (AF). However, recurrences of AF are still common using cryotherapy. The objective of this study was to search for predictors of mid-term AF recurrence after cryoballoon ablation of AF.

**Methods:** In 55 consecutive patients with symptomatic paroxysmal AF (36 males, age  $56 \pm 10$  years), circumferential PVI was performed using a cryoballoon catheter. At 4 months follow up, patients underwent clinical review and 24-hour Holter recordings. Clinical and demographic variables were analyzed via logistic regression to assess for predictors of recurrence.

**Results:** Among the 55 patients, 46 had complete isolation of all PVs (84%). Out of 220 treated veins, 14 were incompletely isolated (6%). At a mean follow up of  $4.1 \pm 1.5$  months, freedom from tachyarrhythmia was observed in 35 patients (64%, success group), whereas 20 patients had recurrence of tachyarrhythmia (36%, failure group). Among these 20 patients, 15 had AF, 4 had atypical atrial flutter and 1 patient had atrial tachycardia. Of all clinical variables analyzed, incomplete isolation of the right inferior PV, mean CHADS2 score and early recurrence of AF within 4 days post ablation were predictors of mid-term AF recurrence ( $P=0.008$ ,  $P=0.03$  and  $P=0.01$ , respectively).

**Conclusions:** Cryoballoon PVI can be safely achieved with an acceptable success rate at 4 months follow-up. Early recurrence of AF within 4 days post ablation seems to be a predictor of mid-term AF recurrence. Although right inferior PV is the most challenging vein to isolate because of its anatomical relationship with the interatrial septum, its complete isolation seems to be an important parameter to achieve mid-term clinical success.

## 240

### Prevalence of intraventricular conduction disturbances in a large population of aircrew members

Sébastien Bisconte [Orateur] (1), Aurélie Nicaise (1), Olivier Manen (1), Dominique Dubourdieu (1), Pierre-André Leduc (1), Jean François Oliviez (1), Jacques Deroche (2), Philippe Heno (2), Marilyn Genero-Gygax (1), Eric Perrier (1)  
(1) CPEMPN HIA Percy, Clamart, France – (2) HIA PERCY, Cardiologie et Médecine Aéronautique, Clamart, France

**Background:** The interpretation of QRS variation and duration in ECG was newly standardized in 2009 by the American Heart Association. The aim

of this study was to define the prevalence of intraventricular conduction disturbance (ICoD) in a population of Aircrew Members (AM) using these recommendations.

**Methods:** AM (military and civilian jet and transport crew) are periodically examined for fitness assessment at the same health care center (CPEMPN) with a standard 12-leads ECG at each visit. ECG is computerized, analysed by one physician and then stocked in a data base. All the ECG with ICoD were extracted from the data base using Tracemaster ECG system. All these ECG were reviewed independently and blindly by a junior and a senior physician, compared with an equal number of normally defined ECG to validate the computerized extraction.

**Results:** From 01/01/1996 to 09/30/2010, 45 160 AM [67,6% male, mean age (ma):  $36,8 \text{ yo} \pm 11 \text{ y}$ , range 17-77 yo] were examined, 222 867 ECG were recorded. The reviewed 12-leads ECG revealed 792 Incomplete Right Bundle branch Block [1,75% ma: 32,8 yo, 95,4% male (2,48%), 4,6% female (0,25%)]; 203 Complete Right Bundle Branch Block [0,45% ma: 41 yo, 94,1% male (0,63%), 5,9% female (0,08%)]; 760 Left Anterior Fascicular Block [1,68% ma: 40,3 yo, 88% male (2,19%), 12% female (0,6%)], 88 Left Posterior Fascicular Block [0,19% ma: 31 yo, 77% male (0,22%), 23% female (0,14%)], 56 Complete Left Bundle Branch Block [0,12% ma: 50 yo, 75% male (0,14%), 25% female (0,1%)].

**Conclusion:** This study is the first prevalence study using the new standard of interpretation of ECG for a large population. However, ICoD remain a situation of high importance in this particular population (including fighter pilot) because this may be caused by structural abnormalities in the heart conduction system or ventricular myocardium and thus may impact the flight safety.

January 14<sup>th</sup>, Saturday 2012

## 241

### Prevalence and prognosis impact of early repolarisation pattern in a general population

Anne Rollin [Orateur] (1), Jean-Bernard Ruidavets (2), Philippe Maury (1), Vanina Bongard (3), Marc Delay (1), Alexandre Duparc (1), Pierre Mondoly (1), Jean Ferrières (4), Didier Carrié (1)  
(1) CHU Rangueil, Cardiologie B, Toulouse, France – (2) Inserm U1027, Département d'Epidémiologie, Toulouse Cedex, France – (3) Inserm U1027, Département d'Epidémiologie, Toulouse Cedex, France – (4) CHU Rangueil, Cardiologie B, Toulouse, France

**Background:** Early repolarisation pattern (ERP) is characterized by an elevation of the QRS take-off (J point) in the inferior and/or lateral leads on the 12 lead surface electrocardiogram (ECG). We aimed to determine the prevalence of ERP in a large population-based cohort study and to determine association between ERP and all-cause mortality.

**Methods and results:** we assessed the prevalence of ERP by recording ECG in 1163 southwestern French men (609) and women (560) aged from 35 to 64 years within the Third French MONICA Survey. The presence of ERP, determined by an elevation of the J point at least 1mm in two consecutive leads excluding leads V1 through V3 was ascertained by two trained cardiologist. The primary end point was total mortality. Mean follow-up was 13.3 years. ERP attributable impact on mortality was determined by a Cox proportional hazard model adjusted for covariables.

**Results:** ERP was found in 157 subjects (13.3%): 78 (6.7%) in inferior leads, 39 (3.3%) in lateral leads, and 37 (3.1%) in both inferior and lateral leads. 74 (6.4%) presented a slurring pattern of ERP and 83 (7.1%) a notching pattern. Prevalence of ERP was higher in men than in women (20.4% vs 5.7%  $p<0.02$ ). Whereas the prevalence of ERP decreased with age in males (35-44 y: 26.5%, 45-54y: 21.3%, 55-64y: 13.7%  $p=0.006$ ), it was stable in women (35-44y: 5.7%, 45-54y: 4.1%, 55-64y: 7.3%  $p=0.39$ ). Because of a significant sex-ERP interaction with mortality ( $p<0.02$ ), we performed analysis in men and women separately. ERP was significantly associated with all-cause mortality only in women with a hazard ratio after adjustment for age and resting heart rate of 4.18 (95% confidence interval 1.55-11.3,  $p=0.005$ ). HR for men was 1.46 (95% CI 0.72-2.98,  $p=0.29$ ).